

IN THE CLAIMS

Please amend the claims as follows.

The claims shown below include the changes introduced by the Examiner's Amendment mailed 10/01/2004.

The Examiner's Amendment introduced an error in claim 30 which is corrected below.

19. (previously presented) A catheter for delivering fluid, comprising:
- a flexible outer sheath having an interior surface and an exterior surface;
 - a polymer matrix attached to the interior surface of said sheath, said polymer matrix defining a lumen therethrough for flow of the liquid;
 - a therapeutic agent releasably captured by the molecules of said polymer matrix
 - a source of energy for releasing said therapeutic agent from said polymer matrix;
 - a controller operably coupled to said source of energy; and
 - a sensor for sensing a response and producing a signal related thereto,
- wherein said controller activates said energy source in response to said signal.
20. (original) The catheter of claim 19 wherein said therapeutic agent is releasably captured by covalent bonding molecules of said agent to molecules of said polymer matrix.
21. (original) The catheter of claim 19 wherein said polymer matrix is a hydrogel.

22. (original) The catheter of claim 19 which further comprises a source of energy for releasing said therapeutic agent from said polymer matrix.

23. (original) The catheter of claim 22 wherein said source is a laser and said outer sheath transmits energy from said laser into said polymer matrix.

24. (original) The catheter of claim 23 wherein said source is a laser irradiating the polymer matrix with laser pulses of varying time duration.

25. (original) The catheter of claim 23 wherein said source is a laser irradiating the polymer matrix with laser pulses of varying radiation intensity.

26. (original) The catheter of claim 23 which further comprises a fiber optic cable for optically coupling said laser to said sheath.

27. (original) The catheter of claim 19 which further comprises a source of infusate liquid for flowing liquid through said lumen, wherein the therapeutic agent released by said source of energy diffuses through said polymer matrix and into said infusate liquid.

28. (original) The catheter of claim 19 wherein said therapeutic agent is a first therapeutic agent, and which further comprises a second therapeutic agent intermixed in said polymer matrix with said first therapeutic agent, said second therapeutic agent being releasably captured by the molecules of said polymer matrix.

29. (canceled)

30. (currently amended) The catheter of claim ~~[30-]~~ 19 wherein said controller includes a cardiac monitor and said sensor responds to cardiac activity.

31. (previously presented) The catheter of claim 19 wherein said controller operating said source of energy to provide energy to said polymer matrix in a fractally-based pattern.

32. (original) The catheter of claim 19 wherein said outer sheath includes a first interior section and a second interior section, and which further comprises a baffle separating said first section from said second section, said first section and said second section each including a portion of polymer matrix, and which further comprises a first therapeutic agent releasably captured in said polymer matrix of said first section and a second therapeutic agent releasably captured in said polymer matrix of said second section.

33. (original) The catheter of claim 19 wherein said outer sheath includes an opaque coating on the exterior surface for limiting the escape of radiation from said outer sheath.

34. (original) The catheter of claim 19 wherein said outer sheath includes a reflective coating on the exterior surface for reflecting radiation into said polymer matrix.